EXMOUTH

Urban District Council.

ANNUAL REPORT

— OF THE —

MEDICAL OFFICER OF HEALTH

For the Year, 1911.

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REPORT.

March, 1912.

To the Chairman and Members of the Exmouth Urban
District Council.

GENTLEMEN,

The chief matter of local interest during the year 1911 has been the completion of the Dotton Water Supply.

A practical reminder of the need of an addition to our water supply was afforded us in the latter part of last summer, when the Reservoir fell so low, owing to the exceptionally long spell of dry weather, that it was found necessary to turn off the water every evening for some weeks, causing a total cessation of cleanliness in Exmouth between the hours of 9 p.m. and 6 a.m.

Fortunately, such a condition of affairs will be avoided in the future.

The death-rate during 1911 was low, while there were rather more births than in 1910.

The Infant Mortality is the lowest on record.

THE EXMOUTH URBAN DISTRICT.

The district is formed by the civil parishes of Littleham and Withycombe, and covers an area of 4,000 acres, exclusive of water

The town is situated upon the slope of a hill facing the South-west. It may be roughly divided into two portions—a low-lying portion near the sea level, the soil of which consists of sand and alluvial deposit, and a higher portion situated on a subsoil of clay marl over-lying the new red sandstone, and containing in many places veins and patches of coarse gravel.

This clay subsoil, which cannot usually be described as good from a sanitary point of view, is in the case of Exmouth redeemed by the fact that it is nowhere level, the surface everywhere having a good fall towards the sea, thus securing the rapid drainage of surface water, comparative dryness of subsoil and excellent sites for building.

It is in the higher parts of the town that most of the better-class houses have been built, and building is still being extensively carried on.

The houses of the working-classes are practically confined to the lower levels, which is for sanitary reasons to be deplored. The fact that nearly all the land on the eastern and higher parts of the town is leasehold, and a restriction placed upon the erection of houses below a certain value, is, for economic reasons, no doubt, satisfactory, but from the standpoint of sanitation is to be regretted, because it forces the extension of working-class dwellings in one direction only, viz., in the direction of Withycombe, on the surface of the Marsh, on made ground.

CLIMATE.

The climate of Exmouth is remarkable for its equability. It is cool in summer and comparatively warm in winter.

Sunshine was registered on 320 days last year, the total duration for the year amounting to 2098.37 hours.

Rain fell on only 159 days, making a total rainfall of 27.60 inches.

These conditions of mildness and equability, coupled with a fresh, keen atmosphere, which prevents it from being enervating, low rainfall and abundant sunshine, render Exmouth an ideal place of residence for those who have lived in tropical climates, for sufferers from bronchitis and asthma, for the aged and infirm, and for young children, who, by being enabled to spend most of their time in the open air, acquire a stock of health which lays the foundation for a vigorous adult life.

WATER SUPPLY.

The Exmouth water supply is derived from an upland surface gathering ground, situated some three miles from the town.

The watershed consists of two distinct drainage areas—Squabmoor and Yettington—having a total area of 725 acres, and is composed of :—

Moorland	571.571	acres
Woods	73.387	,,
Pasture	38.503	,,
Cultivated land	39.635	,,
Orchard	1.904	,,
Total	725.000	,,

The water is enclosed in the impounding reservoir at Squabmoor, which has a capacity of 12¾ million gallons, and is situated at an elevation of 264 feet. The accompanying report of a recent analysis shows that both the chemical and bacterial purity of the water are maintained at a very high standard, equal to that of any similar water supply in the kingdom and superior to most.

ANALYSIS.

Filtered water taken from service reservoir.

Qualitative Physical Characters :—

Colour	Greenish tint.
Taste	Normal.
Odour	None.
Suspended matter	None.

Quantitative Chemical Data :—

Mineral matter	5.2 grains per gall.
Loss on ignition	0.4 ,, ,, ,,
Total solid residue	5.6 ,, ,, ,,
Characters on ignition ..	No organic matter charred.
Chlorides expressed as Chlorine	1.8 grains per gall.

(Equivalent to 2.8 grains of Calcium Chloride).

Temporary hardness	1.0 grains per gall.
Permanent hardness	1.7 ,, ,, ,,
Total hardness expressed as Calcium Carbonate	2.7 ,, ,, ,,
Nitrites	0 ,, ,, ,,
Nitrates expressed as Nitrogen	0.07 ,, ,, ,,
Saline Ammonia	0.0004 ,, ,, ,,
Albuminoid Ammonia ..	0.0042 ,, ,, ,,
Oxygen absorbed in 15 minutes	0 ,, ,, ,,
Oxygen absorbed in 4 hours ..	0.057 ,, ,, ,,
Poisonous metals	absent.
Phosphates	0 ,, ,, ,,
Iron	0 ,, ,, ,,

The Analyst refers to the water as being free from all traces of contamination of domestic origin, as well as natural impurities of a prejudicial nature.

The efficiency of filtration is excellent, as manifested by the results of bacteriological examination. Sowings in nutrient keep gelatine exhibited only thirty bacteria per cubic centimetre, while an examination for the colon bacillus proved a total absence of that micro organism in a measure of fifty cubic centimetres of water.

DOTTON WATER SUPPLY.

These works are practically finished, the test pumping being now in operation. One million gallons per diem is available from this source, and as the gravitation yield from the existing watershed is alone sufficient in wet seasons, the sources of water supply now at the command of the Council are extensive enough to provide for many generations to come. An analysis of the Dotton Supply is as follows, and is of exceptional purity :—

Qualitative Physical Characters :—

Colour	Colourless, equally to distilled water.
Taste	Normal.
Odour	None.
Suspended matter	None.

Quantitative Chemical Data :—

Mineral matter	15.9 grains per gall
Loss on ignition	0 ,, ,, ,,
Total solid residue	15.9 ,, ,, ,,
Characters on ignition	No organic mater'l exhibit.
Chlorides expressed as Chlorine	1.65 ,, ,, ,,
(Equivalent to 2.7 grains of Sodium Chloride).	
Temporary hardness	8.7 ,, ,, ,,
Permanent hardness (after boiling)	2.1 ,, ,, ,,
Total hardness expressed as Calcium Carbonate	10.8 ,, ,, ,,
Nitrites	0 ,, ,, ,,
Nitrates expressed as Nitrogen	0.33 ,, ,, ,,
Saline Ammonia	0.0002 ,, ,,
Albuminoid Ammonia	0.0032,, ,, ,,
Oxygen absorbed in 15 minutes	0. ,, ,, ,,
Oxygen absorbed in 4 hours	0.01 ,, ,, ,,
Poisonous metals	absent
Phosphates	trace.
Iron	0 ,, ,, ,,

SEWERAGE.

The early part of the year saw the completion of the flushing tank scheme and relaying defective parts of the middle level sewer. The making of these tanks has proved very satisfactory, and now that an unlimited supply of water is available, the complaints from this sewer will be entirely removed.

Various extensions to meet the development of the district have been carried out. Quite a considerable sum has been expended in relaying sewers, which, originally put down by private owners across, in many cases, the back yards of cottage property, have become repairable by the public. The Council have certainly been very active in this direction and the Surveyor's staff generally has one of these cases in hand.

Notwithstanding exceptional rains and tides, flooding has been absent and the main outfall sewers appear now to be in a high state of working efficiency.

HOUSE DRAINAGE.

Thirty-eight houses were entirely and 69 partially redrained. 97 w.c.'s were reconstructed or improved. The water closet system is universal throughout the district.

In connection with the redrainage of houses, the smoke test was applied 185 times, and the water test 34 times.

DISPOSAL OF REFUSE.

House refuse is removed by the scavengers twice a week.

4,070 tons of rubbish were destroyed by the destructor, which continues to carry out its work with efficiency.

NEW BUILDINGS.

Forty-seven plans for new houses were submitted to the Council for approval during the year, and 56 new houses were completed.

HOUSING OF THE WORKING CLASSES.

There is a great lack in Exmouth of really good sanitary dwellings for those who earn only 20s. to 30s. per week. A man of this class cannot and ought not to pay more than 2s. or 3s. per week for his house, but although there are a certain number of houses to be had at this price, they are, in only too many cases, very old insanitary places, which remain inhabited only because the occupiers have nowhere better to go without paying a higher rental.

It is difficult to see how a remedy can be found under the Housing and Town Planning Act as it stands at present, at any rate, in a place of the size of Exmouth, and it is to be hoped that the Government will shortly find time to give serious consideration to a matter which so vitally affects the health of the poorer classes of the community.

WORKSHOPS.

There are 128 registered workshops in the district. All these have been inspected during the year. No complaint can be made as to their sanitary condition. Four lists of outworkers were received, the number employed being 28.

Bakehouses.—There are 22 bakehouses, all of which have been inspected and found in good sanitary condition.

Dairies and Cowsheds.—These have been inspected during the year. The dairies are generally clean and well-kept, but there is frequently a good deal to be desired in the condition of the cowsheds. It is of little use to have well-kept dairies unless the actual milking is performed under conditions of equal cleanliness.

Slaughter Houses.—There are 6 registered slaughter houses in the district, 4 of which now have floors of concrete. They are kept as well as can be expected, but it is a great pity that they are not all removed and public abbatoirs erected instead outside the town.

Common Lodging Houses.—There are two of these in the district, and they are now both of them kept in a satisfactory state.

INFECTIOUS DISEASE.

Thirty cases of infectious disease were notified under the Infectious Diseases Notification Act. The numbers for the past ten years are as follows :—

1902	65 cases
1903	550 cases
1904	29 cases
1905	48 cases
1906	179 cases
1907	53 cases
1908	85 cases
1909	34 cases
1910	20 cases
1911	30 cases

Scarlet Fever.—11 cases were notified.

Diphtheria.—There was only one case of diphtheria in 1911, and none at all in 1910.

Enteric Fever.—12 cases were notified. This is the largest number that has occurred for some years.

The cases were practically confined to the poorer classes. One case was imported and 4 cases were definitely traced to the eating of raw cockles from off the rocks.

The long incubation period of this disease frequently makes it impossible to get an exact history from the patient, but very possibly other cases might have been traced to a similar source.

Erysipelas.—Four cases were notified as compared with 10 in 1910.

ISOLATION.

Ten cases of infectious disease were removed to the Sanatorium at Whipton, at a cost of £80 16s., less £16 18s. 11d. recovered from patients or their relatives.

DISINFECTION.

Thirty-four houses were disinfected, either by the formalin spray or by being washed by a solution of corrosive sublimate.

Twenty-four lots of clothing and bedding were treated by the steam disinfector.

The public elementary schools were cleansed and disinfected four times during the year.

VITAL STATISTICS.

The statistics are based upon the census of 1911, when the population was returned as being 11,963.

The births numbered 195, being 28 more than in 1910, the birth-rate being 16.30 per 1000 as compared with 13.97 in 1910.

The deaths numbered 134—equal to an average annual death-rate of 11.27 per 1000, as compared with 12.38 in 1910.

Of the total number of deaths 47 per cent. died at ages over 65.

There were 4 deaths from zymotic disease during the year, 2 from measles and 2 from enteric fever.

INFANT MORTALITY.

The deaths of infants under one year old were four in number, giving an infant mortality of 30.78, the lowest on record.

The following table gives the infant mortality for the past 10 years :—

1902	25 deaths	102.04 per 1,000 births.
1903	19 deaths	93.13 per 1,000 births.
1904	15 deaths	60.72 per 1,000 births
1905	26 deaths	120.39 per 1,000 births
1906	18 deaths	87.80 per 1,000 births
1907	13 deaths	67.00 per 1,000 births
1908	15 deaths	77.31 per 1,000 births
1909	11 deaths	58.20 per 1,000 births
1910	12 deaths	71.85 per 1,000 births
1911	4 deaths	30.78 per 1,000 births

Phthisis.—There were 10 deaths from phthisis, giving a phthisis death-rate of .85 per 1,000.

Cancer.—There were 19 deaths, making a cancer mortality of 1.59.

HOUSING AND TOWN PLANNING ACT.

During the year, several inspections have been made, and where necessary, notices have been served on the owners to put their houses in sanitary repair. These have always been complied with.

There are a certain number of houses which ought to be closed or mainly rebuilt, but the difficulty of finding other suitable accommodation for the tenants makes it, for the time being, at any rate, impossible to do this.

It only remains for me to tender my thanks to the Members of the Council for their kindness and courtesy to me at all times, and to the Surveyor and Sanitary Inspector for the assistance they have given me in the preparation of this report and on many other occasions.

I am, Gentlemen,
Yours faithfully,
E. L. STURDEE,
Medical Officer of Health.

METEOROLOGICAL REPORT FOR 1911.

	January	Feb.	March.	April.	May.	June.	July.	August.	Sept.	Oct.	Nov.	Dec.
Rainfall in Inches	1·04	1·32	2·76	1·05	·87	2 05	·70	·10	1·29	3·66	3·84	8·62
Sunshine in Hours	82·10	84·30	119·55	188·50	262·45	248·60	377 05	257·10	201·90	107·86	99·51	69·45
Mean Barometer (corrected)... ...	30·351	30·263	29·930	30·020	30·017	30·047	30·219	30·047	30·056	29·853	29·759	29·680
Mean Maximum Temperature ...	45·6	48·4	48·7	53·0	64·0	66·6	72·9	73·2	72	58·2	50·9	52·0
Mean Minimum Temperature ...	35·8	37·8	38·1	40·6	49·0	52·0	57·4	58·8	57·7	47·1	40·4	43·1
Extreme Maximum Temperature ...	53·0	58·0	55·0	65·0	76·0	80·5	85·0	84·0	76·0	65·0	58·0	56·0
Extreme Minimum Temperature ...	28·0	24·5	28·0	27·0	39·0	42·0	51 0	49·0	41·0	31·0	28·5	31·0
No. of Wet Days (·01 or more) ...	10	16	17	12	6	13	2	7	13	16	21	26
No. of Bright Days	24	20	25	28	30	30	31	31	28	25	24	24

Total Rainfall—27·60 inches.
Total Sunshine—2098·37 hours.
Highest Temperature—85·00 degrees.
Lowest Temperature—24·50 degrees.
Mean Barometer—30·020
Total Number of Wet Days (·01 or more)—159.
Total Number of Bright Days—320.

Table I.

Vital Statistics of Whole District during 1911 and previous Years.

Name of District—EXMOUTH URBAN.

YEAR.	Population estimated to Middle of each Year.	Births.			Total deaths registered in the District.		Transferable deaths		Total Deaths Registered in the District.			
									Under 1 Year of Age.		At all Ages.	
		Un-corrected Number.	Number.	Rate.	Number.	Rate.	of Non-residents registered in the district	of Residents not registered in the district.	Number.	Rate per 1,000 Births registered.	Number.	Rate.
1	2	3	4	5	6	7	8	9	10	11	12	13
1906	11171		205	18·35	150	13·42			18	87·80	148	13·24
1907	11340		194	17·10	152	13·40			13	67·00	151	13.31
1908	11548		194	16·79	123	10·65			15	77·32	121	10·49
1909	11685		189	16·17	140	11·98			11	58·20	132	11·29
1910	11950		167	13.97	148	12·38			12	71·85	147	12·30
1911	11963	192	195	16·30	127	10 62	2	9	4	30·78	134	11·27

Area of District in acres (exclusive of area covered by water)— 4000.

Total population at all ages—11963.
Number of inhabited houses—2975.
Average number of persons per house—4·02.
} At Census of 1911.

Table II.

Cases of Infectious Disease notified during the year 1911

Name of District—EXMOUTH URRAN

NOTIFIABLE DISEASE.	CASES NOTIFIED IN WHOLE DISTRICT.								Total cases notified in each Locality.		Total cases removed to Hospital
	AT ALL AGES.	At Ages—Years.									
		Under 1	1 to 5	5 to 15	15 to 25	25 to 45	45 to 65	65 and upwards	Littleham.	Withycombe.	
Small-pox											
Cholera											
Diphtheria (including Membranous croup)	1			1						1	
Erysipelas	4					1	1	2	1	3	
Scarlet fever ...	11			7	2	2			5	6	6
Typhus fever ...											
Enteric fever ...	12		1	5	2	1			5	7	4
Relapsing fever ...											
Continued fever ...											
Puerperal fever ...	1					1				1	
Plague											
Phthisis — Under Tuberculosis regulations, 1908											
Phthisis — Under Tuberculosis regulations, 1911	1				1				1		
Phthisis — Others ...											
Totals	30		1	13	5	8	1	2	12	18	10

Isolation Hospital—WHIPTON NEAR EXETER. DISTANCE 11 MILES.

Total available beds 80. Number of diseases that can be concurrently treated, 1.

Table III.

Causes of, and Ages at, Death during Year 1911.

Name of District—EXMOUTH URBAN.

Causes of Death.	Deaths at the subjoined ages of "Residents" whether occurring in or beyond the District.									Total Deaths whether of Residents or non Residents in Public Institutions in the District.
	ALL AGES	Under 1 year	1 and under 2	2 and under 5	5 and under 15	15 and under 25	25 and under 45	45 and under 65	65 and up-wards	
1	2	3	4	5	6	7	8	9	10	11
Enteric fever	2						1	1		
Small-pox										
Measles	2		2							
Scarlet fever										
Whooping-cough										
Diphtheria and croup ...										
Influenza										
Erysipelas	1								1	
Cerebro-spinal fever ...										
Diabetes	4						1	2	1	
Heart Diseases	33				1		2	6	24	
Phthisis (Pulmonary Tuberculosis)	10				1	2	3	2	2	
Tuberculous Meningitis ...	2		1			1				
Other tuberculous diseases	2					1		1		
Rheumatic fever	1				1					
Cancer, malignant disease ...	19							9	10	1
Bronchitis	4							2	2	
Broncho-Pneumonia ...	1				1					
Pneumonia (all other forms	10			1		1		2	6	
Other diseases of Respiratory organs										
Diarrhœa and Enteritis ...	5	4					1			
Appendicitis and Typhlitis	1								1	
Alcoholism							2			
Cirrhosis of liver ...								1		
Nephritis & Bright's disease	6							4	2	
Puerperal fever										
Other accidents and diseases of Pregnancy and Parturition										
Congenital Debility and Mal-formation,including premature births ...	3	2	1							
Violent deaths, excluding suicide										
Suicides	2						2			
Accidents	4			1	1				2	2
Cerebral Haemorrhage ...	12							3	9	
Other defined diseases ...	10						3	4	3	1
Diseases ill-defined or unknown										
All causes	134	6	4	2	5	5	15	37	63	4

Table IV.

URBAN DISTRICT OF EXMOUTH.

INFANTILE MORTALITY DURING THE YEAR 1911

Deaths from stated Causes in Weeks and Months under One Year of Age.

CAUSE OF DEATH.		Under 1 Week	1-2 Weeks.	2-3 Weeks.	3-4 Weeks.	Total under 1 Month.	1-3 Months.	3-6 Months.	6-9 Months.	9-12 Months.	Total Deaths under One Year.
ALL CAUSES.	Certified										
	Uncertified										
Small-pox											
Chicken-pox											
Measles											
Scarlet fever											
Diphtheria and Croup ...											
Whooping Cough											
Diarrhœa					1	1		1			2
Enteritis							1				1
Tuberculous Meningitis ...											
Abdominal Tuberculosis ...											
Other Tuberculous Diseases...											
Congenital Malformations ...											
Premature birth											
Atrophy, Debility and Marasmus											
Atelectasis											
Injury at birth											
Erysipelas											
Syphilis											
Rickets											
Meningitis (*not Tuberculous*)...											
Convulsions		1				1			1		2
Gastritis							1				1
Laryngitis											
Bronchitis											
Pneumonia (all forms) ...											
Suffocation, overlying ...											
Other Causes											
		1			1	2	2	1	1		6

Births in the year } legitimate } 188
illegitimate } 7

Population, estimated to middle of 1911, 11,963.

Deaths in the year } legitimate infants } 6
illegitimate ,, }

Deaths from all Causes at all Ages 134.